

## **REMARKS**

The present Amendment is in response to the Examiner's Office Action mailed October 4, 2005. Claims 1, 2, 4, 7, 9, 10, 12, 13, 16-20, 23, 25-27 are amended, and new claims 28-39 are added. Claims 1-39 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants' understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

### **I. Allowed Subject Matter**

The Examiner's allowance of claims 13-15 and 20-27 is appreciated. Applicants wish to thank the Examiner for the careful review and allowance of those claims. While the Applicants have amended independent claims 13 and 15 to broaden the scope of claims 13-15 and 20-27, the Applicants submit that claims 13-15 and 20-27 are still allowable at least for the same reasons articulated by the Examiner in the previous office actions.

The Applicant's submit the following comments concerning the Examiner's statements of reasons for the indication of allowable subject matter in the Office Action. Applicant agrees with the Examiner that the claimed invention of claims 13-15 and 20-27 is patentable over the prior art, but respectfully disagrees with the Examiners statement of reasons for allowance as set forth in Office Action. Applicant submits that it is the claim as a whole, rather than any particular limitation, that makes each of the claims allowable. No single limitation should be construed as the reason for allowance of a claim because it is each of the elements of the claim that makes it allowable. Therefore, Applicant's do not concede that the reasons for allowable

subject matter given by the Examiner are the only reasons that make, or would make, the claims allowable and do not make any admission or concession concerning the Examiner's statement in the Office Action.

The Examiner has indicated that claims 8 and 11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants appreciate the Examiner's identification of the allowable subject matter in claims 8 and 11 and reserves the right to rewrite these claims in independent form.

### III. PRIOR ART REJECTIONS

#### A. Rejection Under 35 U.S.C. § 103

The Examiner rejects claims 1, 2, 4, 5, 7, 10, 12, and 16 under 35 U.S.C. § 103 as being unpatentable over *Gregory* (U.S. Patent No. 6,305,848) in view of *Neeley* (U.S. Patent Application Publication 20030012485).

According to the applicable statute, a claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (1994); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); MPEP 2142. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

Applicants traverse the Examiner's rejection for obviousness on the grounds that the references – either individually or in combination – fail to teach or suggest each and every element of the rejected claims. It is the initial burden of the PTO to demonstrate a *prima facie* case of obviousness, which requires the PTO to show that the relied upon references teach or suggest all of the limitations of the claims. MPEP 2142 (emphasis added). It is well established

that “every limitation positively recited in a claim must be given effect in order to determine what subject matter that claim defines.” *In re Wilder*, 166 USPQ 545, 548 (CCPA 1970); *See also In re Wilson*, 165 USPQ 494 (CCPA 1970) (“all words in a claim must be considered in judging the patentability of that claim against the prior art”). After a review of the references cited in the office action, the Applicants have determined that the scope of each independent claim can be broadened by elimination of several elements. These elements have been placed in dependant form and are believed allowable as set forth hereinafter.

*Gregory* discloses a high density blindmate optoelectronic module. *Gregory* teaches that optoelectronic modules 10 are configured to mount on a rear edge of a motherboard 14. Each optoelectronic module 10 is further configured to interface with a mating optical connector 12, thereby connecting the optoelectronic module to a plurality of optical fibers of the mating optical connector. *See Gregory*; col. 4, l. 49 – col. 5, l. 36; Figs. 2-5. *Gregory* teaches that a plurality of optical sub-assemblies 28 and respective daughter cards 20 connected to the mother board 14 by press-fit engagements or by soldered joints. Column 6; lines 42-61. Importantly, *Gregory* does not teach, suggest, or motivate removability of the modules 10 from the daughter cards 20.

*Neeley* discloses an environmentally hardened housing containing a gigabit switch/controller, fibre service modules, and gigabit transport modules. *See Figure 4. Neeley* describes that the transceiver modules are hot-swappable to allow installation and removal in the field. *See paragraph [0029]*. As can be appreciated from Figure 4, each module couples to a connector in the housing via a receptacle on the back side of the module.

Independent claim 1 as currently amended recites the following:

1. An optoelectronic module array system, comprising:  
a host board;  
a plurality of daughter cards that are each operably connected to the host board at an angle; and  
a plurality of optoelectronic modules that are each removably connected to a respective one of the daughter cards.

(Emphasis added).

Independent claim 10 as currently amended recites the following:

10. An optical device, comprising:  
an optical transceiver module array system, including:  
a host board;

a plurality of daughter cards that are each operably connected to the host board; and  
a plurality of transceiver modules that are each removably connected to a respective one of the daughter cards.

(Emphasis added).

Independent claim 16 as currently amended recites the following:

16. An optical transceiver module array system, comprising:  
a host board;  
a plurality of daughter cards connected to the host board;  
a plurality of transceiver modules; and  
a plurality of cages that are each connected to a respective one of the daughter cards, each cage being configured to removably receive a respective one of the transceiver modules.

Neither *Neeley* or *Gregory* disclose a transceiver module that is removable from a daughter card or a cage that removably receives a transceiver module. Rather, *Neeley* merely discloses a transceiver module that is hot swappable from a connector located in the rear of the module. The Examiner has not clearly articulated how the structure of the module in *Neeley* would be modified in order for the module to be removable from a daughter card. Moreover, the Examiner has not shown a cage that is configured to removably receive a transceiver module. Rather, the module in *Neeley* only illustrates a module that is removable from a connector in a housing. The Examiner has not clearly and particularly described how the module in *Neeley* would replace the modules 10 in *Gregory* and retain its functionality. Therefore, evidence of every element of claims 1, 10, and 16 has not been set forth by the Examiner and the Applicants respectfully request that the rejection of claims 1, 10 and 16 be withdrawn.

The Applicants further request that the rejection of independent claims 1, 10, and 16 be withdrawn for lack of sufficient actual evidence of motivation for the proposed combination. The final step of the obviousness inquiry requires that concrete evidence of motivation for the missing elements be clearly set forth. “[The Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.” *In re Warner*, 154, USPQ 173, 178 (CCPA 1967). The showing of a motivation to combine the references must be clear and

particular, and it must be supported by actual evidence. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999) (emphasis added).

Missing from the combination of *Neeley* and *Gregory* is the “logical reason apparent from positive, concrete evidence of record” (*In re Regel*, 188 USPQ 136, 139 n.5 (CCPA 1975)) why one of ordinary skill in the art would have been motivated to configure the daughter boards 20 of *Gregory* with removable optoelectronic modules in view of *Neeley*. While *Neeley* may well disclose a hot swappable module, *Neeley* does not, however, suggest a module that is removable from a daughter board or any suggestion that would motivate one of ordinary skill to reconfigure *Gregory* in the manner proposed. The PTO cannot simply make conclusions based on its own understanding or experience – or on its allegation of what would be basic knowledge or common sense. Rather, the PTO must point to some concrete evidence in the record in support of the findings. *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (emphasis added; footnote omitted).

Rather, the rejection of claims 1, 10, and 16 based on the combination of *Neeley* and *Gregory* uses the Applicant’s claims as a blueprint to select from each reference only so much as to reconstruct the Applicant’s claimed invention thereby engaging in impermissible hindsight reconstruction. When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the Applicant’s invention itself. It is critical to understand the particular results achieved by a new combination. *Interconnect Planning Corp v. Feil*, 774 F.2d 1132 (Fed. Cir. 1985). Therefore, Applicants respectfully request the rejection of claims 1, 10, and 16 be withdrawn for lack of sufficient motivation for the proposed combination.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Therefore, Applicants respectfully request that the rejections of claims 2, 4, 5, 7, and 12 be withdrawn at least for the same reasons as set forth independent claims 1, 10, and 16.

Regarding the rejection of claims 4 and 5, the Office Action appears to be unclear as to what is a “module” and what is an “optical subassembly” in *Neeley*. For example, on pages 3 and 4 of the Office Action, the structure identified in *Neeley* with reference numeral 28 is

interchangeably referred to as “optical sub-assembly,” “optoelectronic modules,” “optoelectronic device.” It is clear, however, from the language in *Neeley* that reference number 10 is referring to optoelectronic modules and reference number 28 is referring to optical sub-assemblies. See e.g. col. 4, line 49 – col. 5, line 20. This distinction is further illustrated in Figures 2 and 4 of *Neeley*.

Regarding the rejection of claim 7, the Applicants respectfully traverse the Examiner’s assertion that latching devices are inherently required to selectively and removably attach the optoelectronic modules of *Neeley* merely because the modules shown are in a fixed position. To establish inherency, the evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *In re Roberts*, 169 F.3d 743 (Fed. Cir. 1999) (emphasis added) citing *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). Inherency “may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Continental Can*, 948 F.2d at 1269. “The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.” *In re Rijckaert*, 9 F.3d 1531 (Fed. Cir. 1993). There are many different methods and devices for keeping an object in a fixed position. The Examiner simply has not established, and Figure 4 of *Neeley* does not support the proposition, that a latching mechanism is necessarily present in *Neeley*.

Regarding the rejection of claims 3, 9, and 17, it appears that the Examiner has relied upon personal knowledge in the Office action for rejecting these claims. Regarding the rejection of claim 9, it appears that the Examiner is relying on personal knowledge where the Examiner states that the “function of the device would remain the same...” Regarding the rejection of claims 3 and 17, it appears that the Examiner is relying on personal knowledge where the Examiner states that “direct solder connections are interchangeable with, and commonly replaced by connector/receptacle arrangements.” In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all references(s), other than those that have been specifically cited by the

Examiner, upon which the obviousness rejection of claim 9 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 3, 9, and 17.

The Applicant further notes that the question of obviousness is not whether the function would remain the same, but rather, whether one of ordinary skill would have been motivated to modify the disclosed embodiment in the manner proposed by the examiner. Thus, there is insufficient motivation for the proposed combination in rejecting claim 9.

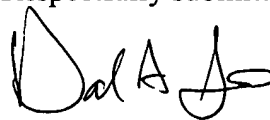
The Examiner rejects claims 16, 18, and 19 under 35 U.S.C. § 103 as being unpatentable over *Gregory* in view of *Neeley* further in view of *Gilliland et al.* (U.S. Patent No. 6,358,066). Claim 6 depends from claim 1. Claims 18 and 19 depend from claim 16. As described above, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is also nonobvious. Therefore, Applicants respectfully request the rejection of claims 16, 18, and 19 be withdrawn at least for the same reasons as independent claims 1 and 16.

**CONCLUSION**

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 6 day of February, 2006.

Respectfully submitted,



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